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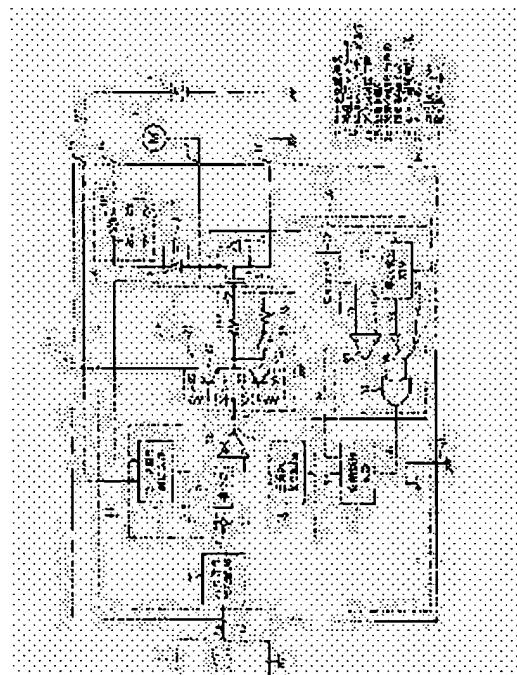
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## (54) MOTOR DRIVING DEVICE

### (57) Abstract:

**PROBLEM TO BE SOLVED:** To prevent a semiconductor switching element from being overheated or recover it from overheated state without exerting influence on the rotational speed of a motor.

**SOLUTION:** A temperature sensor 33 detects the temperature of a MOS transistor 7, and a current detection circuit 35 detects the current passing through the MOS transistor 7. When a voltage  $V_a$  corresponding to the detected temperature or a voltage  $V_c$  corresponding to the detected current rises and exceeds a threshold value, an overheated state detection signal  $S_b$  and further switching signals  $S_d$  and  $S_e$  are brought to the H level. As a result, in a drive circuit 15, a switch circuit 26 is turned on and the gate resistance value becomes equal to the parallel value of resistors 24 and 25, and in a PWM control circuit 14, the PWM frequency is lowered. Thus, while the motor 2 is rotationally driven, the switching loss in the MOS transistor 7 can be reduced.



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